# Conservation Biology Lab (EBIO324/EBIO524); Spring 2020

*Instructor*
**Cassidy B. Johnson**, Ph.D.
Office Hours: Friday by appointment – please email to me to arrange a time!
Email: cbj5145@rice.edu

*Meeting Times*
Location: Keck 105 (temporarily until ABL 130 is finished)
Time: Friday, 1PM-5PM

*Textbook*
No textbook will be required for this course. Required documents and readings will be provided on the course's Canvas page. Additional readings, resources, or other course documents will also posted in Canvas.

*Additional materials*
The field equipment and reference guides needed for the course will be provided. Several of the class meetings will take place outdoors and students will need to prepare appropriately (closed-toed shoes, long pants, hat, sunscreen, water bottle are encouraged).

*Course overview and description*
This one-credit laboratory course is designed to address an authentic, local conservation issue facing the greater Houston area. Students will be responsible for the project design, the collection and analysis of data, and the dissemination of that data using communication methods suitable for a general audience. Students enrolled in EBIO324/524 are encouraged to have previously taken or be simultaneously enrolled in EBIO323; however, some exceptions may be given on an individual basis. Conservation biology is a multidisciplinary field; therefore, students from all academic fields are welcome to participate.

Rice University's Arboretum Committee has challenged the students of EBIO 324/524 to research, design and propose a habitat conservation plan (HCP) for the entire university campus. Students will assess conservation issues that are impacting the Rice community, and then research and develop a conservation action plan that will effectively address each issue. The individual plans will be used to design an overarching, campus HCP. The final HCP will be presented to the Arboretum Committee and the Rice community at the end of the semester for consideration. Through this project, the students of EBIO 324/524 have an unparalleled opportunity to make a lasting and positive conservation impact on both the Rice campus and the greater Houston community.

*Course objectives*
1. To gain an authentic experience in the design and implementation of a conservation-based project.
2. To gain familiarity with the benefits and challenges of the field of conservation and the concept of "reconciliation ecology."
3. To gain familiarity concerning the use biodiversity metrics for conservation practices and decision-making.
4. To synthesize a summary report of the research, including recommendations

for continued conservation practices based on the data collected.
5. To gain experience designing effective conservation communication and/or educational strategies geared towards a non-science audience.

By the end of the course, you will be expected to:
1. Understand methods used to investigate and analyze biodiversity, with a focus on the challenges of working in urban settings.
2. Be able to synthesize scientific data into a written document, which will include an analysis and recommendations based on the data.
3. Be familiar with a diversity of methods and strategies that can be used to disseminate scientific information to a general audience.
4. Understand the role that urban conservation has in encouraging awareness in regards to habitat loss and global species decline.
5. Work collaboratively to design and implement a community-based project.

### *EBIO 324 Grading:*

Grades will be calculated out of 500 points. Grades will be distributed as follows: ≥90% A, 80-89% B, 70-79% C, 60-69% D, ≤59% F.

| Assignments | pts | % final grade |
|---|---|---|
| Discussion board post (mini assign. #1) | 10 | 2% |
| Project ratonale (mini assgn. #2) | 10 | 2% |
| Questions/answers (2 sets) | 20 | 4% |
| Project class presentation | 100 | 20% |
| Personal feedback for groups | 10 | 2% |
| Mock project pitch | 50 | 10% |
| Final Project pitch presentation | 100 | 20% |
| Final paper | 100 | 20% |
| Action item | 50 | 10% |
| Class particpation | 50 | 10% |
| Total | 500 | 100% |

### Details concerning graded assignments [EBIO 324]:

- ***Mini assignments (10pts each, 20 points total)***

1) Discussion/Assignment 1 (due 1/24; individual): Read one or more of the articles posted on urban conservation and comment on two aspects of the article(s) that you believe might be relevant to the course project. Please include a short description of "why" you think this way. Please post your comments in the Discussion board on Canvas. Every student must make a unique comment for full credit.

2) Project relevance/Assignment 2 (due 1/31; individual): Research why the particular conservation topic you selected for the focus of your project is important and/or relevant to Rice. Why is this conservation action important, and how would it benefit our campus community and the Houston area? Also, how would this action fit into President Leebron's V2C2 plan? Write ~1-page summary of this information and email it to me.

- ***Question/answers for field trips (20pts total; due 2/14):***

For each of the field trips, each student needs to write 4-5 questions that are related to your topic for the conservation expert that we will be meeting. After the field trip, please type up at least two of your answered questions and submit them in a document via email by 2/14.

- *Project presentation (100 pts)*

The project presentation will be an opportunity for each group to present their conservation action and solicit feedback from the class. This expectation is that the presentation thoroughly describes the project for evaluation. All project partners are expected to participate. Additional information regarding this project is in Canvas.

- ***Mock project pitch (50 pts)***

The project pitch is a shorter version of the presentation that will be used to present the conservation action plans to the Rice community. The mock pitch will be presented and evaluated by the instructor prior to the final presentation day. Additional information regarding this project is in Canvas.

- ***Project feedback (10 pts)***

Each student will evaluate the project proposals presented by each group. Students will be expected to ask questions in class; however, any additional questions, suggestions, and feedback will be typed up and submitted to by the instructor. All comments will be collated and submitted to each group anonymously to assist in the development of their final proposal.

- ***Final Project Pitch & Written proposal (250pts total):***

The final project presentation pitch and written proposal will be a culmination of each group's research on the restoration plan. The final project will also require the team "act" on a component of their plan. Additional details regarding the final projects is in Canvas.

- ***Participation (50 pts)**:***

Participation will be evaluated two ways, through a peer evaluation (25 pts) and an instructor evaluation (25pts). The peer evaluation will evaluate your role as a project partner; whereas, the instructor evaluation will take into consideration your class attendance, your interaction with your peers during class (asking questions, giving feedback), your interaction with the instructor (asking me questions) and your general engagement during discussions and field trips (are you paying attention or playing on your cell phone?)

*EBIO 524 Grading:*
Grades will be calculated out of 500 points. Grades will be distributed as follows: ≥90% A, 80-89% B, 70-79% C, 60-69% D, ≤59% F.

| Assignments | pts | % final grade |
|---|---|---|
| What is a HCP presentation | 20 | 4% |
| Questions/answers (2 sets) | 30 | 6% |
| Personal feedback for groups | 25 | 5% |
| Mock project pitch | 50 | 10% |
| Final Project pitch presentation | 100 | 20% |
| Final paper | 200 | 40% |
| Action item | 25 | 5% |
| Class particpation | 50 | 10% |
| Total | 500 | 100% |

Details concerning graded assignments [EBIO 524]:

Graduate student (524) projects: Graduate students will participate most of the assignments listed above with few exceptions (outlined below). A thorough write up of the major project assignments are in Canvas.

- *What is a HCP? (20 points total)*

Instead of completing mini-assignments 1 & 2, grad students will instead research and give a brief presentation on what a habitat conservation plan is. This short presentation will be delivered in class on 1/24. A full description of what is expected in the presentation is in Canvas.

- *Final Project Pitch & Written proposal (250pts total):*

The final project presentation pitch and written proposal will be a culmination of the classes individual group projects. The graduate student will be responsible for the final, habitat conservation plan for the class by compiling the information project information organized by the undergraduate teams. Additional details regarding both of these final projects are in Canvas.

**Additional note: Because this course meets only once a week, students should not plan on missing more than two class periods (this will result in a loss of all of your participation points = 10% of your grade). If you expect that you will miss more than two classes, you must discuss this with me in advance. I will determine on a case-by-case basis if you can make up some of the points by doing additional work for your group, or by participating in an additional activity outside of class.

*Disabilities*:
Any student with a disability that requires accommodation is encouraged to speak with me within the first two weeks of the class. The student is additionally encouraged to contact the Director of Disabled Student Services in the Ley Student Center.

## *Honor code:*

It is the expectation of this class that all work produced is unique to that student or students. Plagiarism of any kind will not be tolerated. Any use of published and unpublished research, websites, or personal communication with experts needs to be clearly stated in presentations and in written documents. If you have any questions about a potential violation about the Rice University Honor Code, please contact me.

Collaboration with classmates is encouraged in this class; however, individual assignments are to be completed individually as requested. Any deviation from this may result in a grade in 0 for the assignment in question.

## *Course Schedule (subject to change)*

The course meets on Friday in Anderson 130 from 1PM – 5PM. Changes to the meeting location or time will be communicated to students ASAP. I will do my best to adhere to the schedule; however, I reserve the right to modify the schedule due to bad weather, or changes in the schedules of the invited guests.

| Date | Class activity | Homework/Assignment due |
|---|---|---|
| 17-Jan | Course introduction; What is urban conservation, rewilding and reconciliation ecology? Tour of prairie restoration at HGNA | EBIO 324: Mini-assignment #1 due 1/24<br>EBIO 524:Short presentation on HCP due 1/24 |
| 24-Jan | Campus sustainability tour with Richard Johnson; What is a HCP? Choose groups & select topics | EBIO 324: Mini-assignment #2 due 1/31 |
| 31-Jan | Field trip to Houston Audubon's Edith Moore Nature Sanctuary | Edith Moore questions/answers due 2/14 |
| 7-Feb | Field trip to Houston Arboretum & Nature Center | Arboretum questions/answers due 2/14 |
| 14-Feb | *Spring recess; No class* | |
| 21-Feb | Project work day | |
| 28-Feb | Project work day | |
| 6-Mar | Project presentations and feedback session | Feedback on project presentations due 3/9; Feedback will be delivered to groups by 3/13 |
| 13-Mar | Project work day | |
| 20-Mar | *No class; Spring Break* | |
| 27-Mar | Project work day | |
| 3-Apr | Mock project pitch presentations | Groups will arrange a time to present to instructor<br>*Note: Rough draft/outline of final paper due 3/5* 11:59PM |
| 10-Apr | Mock project pitch presentations | Groups will arrange time to present to instructor |
| 17-Apr | Meet in classroom; Final project presentation practice | |
| 24-Apr | **Final project presentation@ 1:30PM open to the Rice community** | **Written proposal due by 11:59PM** |